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The Relationship Between Trauma History, PTSD Symptomology, And Intimate Partner Abuse Threat Perception

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THE RELATIONSHIP BETWEEN TRAUMA HISTORY, PTSD SYMPTOMOLOGY, AND INTIMATE PARTNER ABUSE THREAT PERCEPTION

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Alexandra Taylor Rehovsky
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ABSTRACT

Intimate partner violence (IPV) is a prevalent issue for women worldwide. Commonly, women who experience IPV will develop symptoms of post-traumatic stress disorder (PTSD). Given the high rates of reabuse experienced by the population of women who develop PTSD, this study aimed to explore how PTSD symptomology may contribute to women's vulnerability to reabuse. The current study investigated whether PTSD and IPV history predicted threat perception hindrance—theorizing that dampened threat perception may contribute to reabuse vulnerability. Participants each read five vignettes representing five levels of threat severity within a relationship interaction to create a within-subjects design to test their threat perception. Regression and analysis of variance were used to determine if women with IPV histories or PTSD symptoms—broken up and analyzed by cluster—rated the vignettes as more or less threatening than those who did not endorse IPV histories and/or PTSD symptoms. Results showed that IPV histories and PTSD symptoms both contributed significantly to threat perception; however, PTSD symptoms contributed minimally and with much smaller effect sizes.

CHAPTER I

INTRODUCTION

Violence against women, especially within their own homes and partnerships is not a new concept. In fact, the only aspect of domestic violence that can be considered new is the idea that it's wrong or unlawful. In the words of Dr. Erez, domestic violence is an issue that has a "long past, but a short history." Around the world, most legal systems did not address domestic violence as wrong until the 1993 when the United Nations (UN) urged countries around the world to consider domestic violence to be a criminal act (Smith, 2008). However, despite new laws and programs being developed to confront and end domestic violence, for many women around the world, being in an abusive relationship is still a part of their everyday lives.

Decades of research on abuse and domestic violence have brought many elements of these relationships to light. However, with subjects as complex as abusive partnerships, research has a tendency to invoke more questions. Then, more research is needed to fill these new gaps. In the case of this study, the main target question involved looking at the effects of being victimized (either once or chronically), and the potential subsequent impact of these effects becoming vulnerabilities for future victimization. In other words, does the trauma of abuse impact a person's ability to recognize future threatening behavior exhibited by partners? Are women with trauma histories, abuse histories, and/or diagnosable trauma symptoms—likely due to being victimized in the first place—at a higher risk of being victimized by an abusive partner than average? Moreover, could the impact on future threat be a contributing factor to the reabuse cycle?

Additionally, with topics as sensitive as the innerworkings of abusive relationships, some preliminary cautions must be noted. First, the research conducted in this study focuses on characteristics of the victim, not the perpetrator/offender. Research regarding the offender is essential, because they are the individuals responsible for the suffering of victims. Therefore, research on preventative efforts with abusive men should be a research priority. The decision to research the victims and not offenders may appear to be victim-blaming; however, we believe that it is essential that research be done on what variables may lead women to be more vulnerable to being victimized. The identification of vulnerabilities could lead researchers to develop intervention efforts, programs, and tools to help women reduce their risk and increase their self-protective behaviors (VanZile-Tamsen et al., 2005).

Intimate Partner Violence

Intimate partner violence (IPV)—otherwise known as domestic violence or partner abuse—against women is a public health concern that plagues every society, culture, and race (Almedina & Milena, 2014). IPV is an epidemic defined by the Center for Disease Control and Prevention (CDC) as "actual or threatened physical, sexual, psychological, or stalking violence by current or former intimate partners" (Thompson, Hertz, & Sitterle, 2006). Acts of IPV are most commonly made by men against women (Erez, 2002). About 30% of women worldwide who have been in a relationship report experiencing some form of physical and/or sexual violence by an intimate partner in their lifetime (Black et al., 2011; World Health Organization, 2017).

The first wave of legal activism against IPV in the United States occurred in the 1970's when domestic violence was defined as a crime, granting the legal system the power to intervene

in such relationships (Erez, 2002). For many other countries around the world, this justice system progress did not occur until after the UN published the *Strategies for Confronting Domestic Violence: A Resource Manual* in 1993, urging the rest of the world to define IPV as a criminal act (United Nations, 1993). Today, most physical acts of violence against a partner are considered felonious; however, not all types of IPV are considered even considered crimes (Erez, 2002). This is another reason that the impacts of IPV are important to understand. If more research can show that all types of IPV result in negative consequences for victims, including types of IPV that do not necessarily result in physical evidence (e.g., bruises, scars, nerve damage, etc.), the legal system may update laws to include more comprehensive definitions of IPV which will result in the legal protection of more women.

Types of IPV. Although the term "violence" in IPV may bring to mind more classical meanings of domestic abuse (e.g., hitting, beating, kicking, leaving bruises, scratches etc.). In reality, IPV is a term that can represent the whole spectrum of partner abuse acts. For the purposes of this study, IPV is meant to include psychological abuse, emotional abuse, physical abuse, sexual abuse. However, the term is not necessarily limited to these acts alone in other contexts.

Psychological and emotional abuse is arguably the most common form of abuse (Carney & Barner, 2012). This form of abuse can be defined as nonphysical behavior used by a partner to control, subdue, punish, or isolate another person using humiliation or fear tactics (Engel, 2002). Acts of emotional/psychological abuse include sexual coercion, stalking, obsessive behavior, verbal threats, and expressive aggression. The prevalence of psychological and emotional abuse was found to average about 50-80% with the percentage varying based on population sampled

(i.e., large community samples, small community samples, clinical samples, university samples, and forensic or legal samples) (Black et al., 2010; Carney & Barner, 2012). About 10.7% of women in the United States have reported being stalked by an intimate partner during their lifetime (Black et al., 2010).

Physical abuse can be defined by violent acts toward an individual with the intention of causing pain or harm. Physical abuse includes, but is not limited to, choking, hitting, kicking, slapping, hair-pulling, pinching, and pushing. Research estimates that about 35.6% women have experienced some form of physical violence by a partner within their lifetime, while 24.3% of women have experienced severe physical violence by an intimate partner (Black et al., 2010).

Sexual violence is another common form of IPV. The major types of sexual violence include rape, sexual coercion, unwanted sexual contact, and non-contact unwanted sexual experiences. A common belief is that acts of sexual violence are carried out by strangers; however, research shows that most acts of sexual violence are carried out by intimate partners. About 10% of women in the United States are estimated to have been raped by an intimate partner in their lifetime, and an estimated 17% of women have experienced sexual violence other than rape at the hands of an intimate partner (Black et al., 2010).

Impact of IPV. IPV events have devastating effects on people who experience them; physically, emotionally, and psychologically. Short term effects of IPV typically manifest as physical injuries and depression symptoms (Liu et al., 2018); while long term effects of IPV events tend to include symptoms of post-traumatic stress disorder (PTSD). Studies have also shown that effects of PTSD and depression related to domestic violence can feed into other peripheral consequences of domestic violence, such as increasing an individual's risk for

substance abuse problems, economic difficulties/job loss, and elevated suicide risk (Najavits et al., 2004; Showalter, 2016; Kavak et al., 2018). In other words, the effects of IPV on a victim can last a lifetime, which is why research within the domain of domestic violence is critical for the welfare of women.

Reabuse. To make researching IPV more complicated, extra attention must be paid to a phenomenon called reabuse. The term "reabuse" should not be confused with the term "revictimization" which is defined by Messman-Moore and Long (2000) as an interpersonal trauma, such as sexual assault or IPV experienced by an individual in adulthood following sexual abuse experienced as a child. Research has shown that a large proportion of IPV victims will be abused more than once in their lifetime. In other words, once a woman experiences an IPV event, she may find herself in a cycle-like reabuse situation where she is then at a significantly higher risk for experiencing abuse again (Walby & Allen, 2004; Kuijpers, Knaap, & Winkel, 2012). The term reabuse can be used to describe an individual being reabused by the same perpetrator, or by multiple perpetrators (Bockers, Roepke, Michael, Renneberg, & Knaevelsrud, 2014).

Studies have found that about 36.7-66% of women that were victims of non-sexual intimate partner violence were reabused within one year of the first incident (Krause et al., 2006; Walby & Allen, 2004). Sexual abuse was also found to have a prevalence of about 66% of women experiencing reabuse (Classen et al. 2005). In other words, once a woman has experienced an act of IPV – whether physical and/or sexual – her risk of experiencing IPV again can be greater than double her original risk.

One of the most influential types of trauma on the reabuse cycle seems to be childhood trauma, especially sexual or physical child abuse (Messman-Moore, Long, & Siefgried, 2000;

DiLillo, Giuffre, Tremblay, & Peterson, 2001; Walsh et al., 2007; Kim, Talbot, & Cicchetti, 2009). The pathway between childhood abuse and adult revictimization has been found to be complex and there are many factors that can affect an individual's risk for higher vulnerability (Fargo, 2009). For example, one study showed that emotional awareness—the ability to recognize and understand one's
own emotions—was a protective factor for child abuse victims that protected against adult revictimization (Zamir & Lavee, 2015). Other protective factors include: parental caring and mental health treatment/intervention (Scoglio, Kraus, Saczynski, Jooma, & Molnar, 2019).

As with most concepts in psychology, there are many risk and protective factors that play into the reabuse cycle. One study reported that the greater the IPV severity and the shorter the relationship duration increased a victim's vulnerability to experiencing reabuse (Krause et al., 2006). Multiple studies have shown that trauma histories also be a significant risk factor for revictimization (Dutton, 1992; Messman & Long, 1996; Arata, 2000; Messman-Moore, Long, & Siegfried, 2000).

Research on the reabuse cycle within adulthood and factors that may contribute to an IPV victim finding themselves within this cycle is relatively under-researched, but there are still theories. Regarding the relationship between abuse and reabuse, a popular theory is that trauma history may exacerbate the psychological distress associated with IPV events (Dutton, 1992; Walker, 1984). In turn, these psychological difficulties can impede a person's ability to avoid future IPV (Foa, Cascardi, Zoellner, & Feeny, 2000). In the current study, the hypothesis is that the aforementioned psychological difficulties are PTSD symptoms and that these symptoms are one of the root inhibiters of IPV victims being able to accurately identify relationship-related

threats. If this is the case, and PTSD symptoms inhibit relationship-threat assessment accuracy in people, mental health care and psychological intervention for IPV victims would be critical resources to help them break the reabuse cycle. However, currently mental health care was rated by IPV victims as the most common unmet need for women (Wadsworth, Kothari, Lubwama, Brown, & Benton, 2018). Hopefully, further research showing the importance of IPV victims receiving the mental health care that they need will challenge current health care barriers on such mental health resources.

The primary goal of the current study is to simply examine the relationship between PTSD symptoms and how they may affect threat assessment accuracy in women, not necessarily reabused women. However, a periphery goal of this study is to examine how post-trauma symptoms of distress may influence a person's ability to interpret threatening situations the same as those who do not express similar symptomologies. If women with abuse histories and trauma-related symptomologies assess threatening situations as less threatening than those who do not, this may be a contributing factor to the reabuse cycle.

Post-Traumatic Stress Disorder

Research in the last decade has shifted focus to attempt to explain why the increase in risk of reabuse occurs after a preliminary traumatic event. One of the most common findings in literature involves post-traumatic stress disorder (PTSD) symptoms experienced by the victim (Kuijpers et al., 2012). According to the Diagnostic and Statistical Manual, 5th edition (DSM-5), PTSD is a disorder induced by exposure to actual or threatened death, serious injury, or sexual violence (American Psychological Association, 2013). The lifetime prevalence of PTSD ranges

from 1.3-12.2% depending on social background and country of residence (Shalev, Liberzno, & Marmar, 2017).

Symptoms of PTSD include: nightmares, flashbacks, intense distress, physiological reactions to cues related to the traumatic event(s), persistent negative emotional state, diminished interest or participation in activities, feelings of detachment or estrangement from others, irritability, angry outbursts, reckless/self-destructive behavior, hypervigilance, difficulty with concentration, exaggerated startle response, and/or sleep disturbance (American Psychological Association, 2013). Depending on the severity of the symptoms experienced, any of the above symptoms has the ability to cause significant distress in any area within a person's life – socially, economically, physically, emotionally, etc. Therefore, PTSD can be a debilitating disorder for anyone that endorses these symptoms, many of which are victims of IPV.

Symptom Clusters. Symptoms of PTSD generally fall under the following categories: intrusive thoughts or re-experiencing related to the traumatic event(s), avoidant symptoms, negative alterations in mood or cognitions, increased arousal symptoms such as startling easily, and/or dissociation (American Psychological Association, 2013). The first four categories must be present in an individual for a diagnosis and represent the four main symptom clusters: Intrusion, Negative Mood/Cognitions, Avoidance, and Hyperarousal. Although it is possible to experience dissociation due to PTSD, these symptoms are not necessarily required for a formal diagnosis (American Psychological Association, 2013). Each cluster has its own set of commonly experienced symptoms. These clusters are not mutually exclusive, but they do represent common groupings of symptoms individuals tend to experience.

The re-experiencing symptom cluster tends to involve recurrent nightmares, strong feelings of distress when reminded of the traumatic event, and physical responses (increase in heart rate or sweating) when reminded of the traumatic event. The second symptom cluster of avoidance/numbing usually manifests as actively avoiding people, places, or situations that remind the victim of the traumatic event. Individuals experiencing the avoidance/numbing cluster of symptoms usually try to keep themselves so busy that they don't have time to think about the traumatic event. Symptoms of the hyperarousal cluster include: having a difficult time falling or staying asleep, irritation, outbursts of anger, difficulty concentrating, feeling constantly on guard or like danger is nearby, and being jumpy or easily startled. Lastly, the negative thoughts and beliefs symptom cluster usually involves having a difficult time remembering important parts of the traumatic event, loss of interest in hobbies or activities, feeling distant from others, and difficulty experiencing positive emotions, such as happiness or love (American Psychological Association, 2013).

Studies have shown that the different symptom clusters are more or less associated with certain "risky" behaviors—such as, drug use or certain sexual behaviors—than others. For example, one study found that risky sexual behavior was positively associated with the re-experiencing symptom cluster and negatively associated with the avoidance symptom cluster (Gore-Felton & Koopman, 2002). The way these clusters can potentially relate to the reabuse cycle through threat assessment inhibition or excitation is the main focus of interest for this study.

PTSD and IPV Relationship Theories. About 31-84.4% of IPV victims have been found to experience PTSD symptoms of varying severity, based on a meta-analysis examining 11

studies (Golding, 1999). Some studies in particular found that the greater the rate of revictimization/reabuse, the greater the predictive factor of PTSD (Ullman & Peter-Hagene, 2014; Ullman, 2016); in other words, the rate of PTSD symptoms among victims tends to increase as number of reabuse events increases, and vice versa. The relationship between PTSD symptomology and reabuse is therefore seen to be synergistic.

Additionally, the relationship between IPV event(s) and PTSD is not necessarily only linear from point A (an IPV event) to point B (consequential PTSD symptoms); instead, evidence has found that the relationship between the two can be seen more as bidirectional (Krause et al. 2006). PTSD symptoms increase a person's likelihood of experiencing revictimization or reabuse (Krause et al., 2006; Iverson et al., 2011). A portion of reabuse events occur between the victim and the same abuser multiple times; as opposed to the victim being abused by multiple abusers. Regarding the former, one study found that PTSD symptoms increased the likelihood of experiencing reabuse by the same partner, because the PTSD symptoms hindered the victim's rational-decision making framework, preventing them from making the decision to leave their abuser (Rhatigan, Shorey, & Nathanson, 2011).

The mechanisms of PTSD have been found to contribute to women's vulnerability to revictimization and reabuse both internally and externally. Examples of external effects of PTSD on the reabuse cycle include financial or employment distress and isolation from social support. For example, according to Lindhorst, Oxford, and Gillmore (2007), psychological distress (such as PTSD symptoms) due to a history of domestic violence often contributes to unemployment. Victims experiencing PTSD symptoms can find maintaining employment very difficult (Johnson, Zlotnick, & Perez, 2008). A victim's loss of employment or unstable financial control

are commonly cited as playing a role in the victim's potential dependency on their abuser, leaving them vulnerable to continued abuse (Lindhorst, Oxford, & Gillmore, 2007; Riger & Staggs, 2004; Showalter, 2016). When a victim's untreated PTSD symptoms affect their employment status and financial stability they are likely to find it more difficult to leave their abuser.

Studies have shown that social support can be critical for combating PTSD symptoms (Brewin, Andrews, & Valentine, 2000; Ozer, Best, Lipsey, & Weiss, 2003; Neria, Besser, Kiper, & Westphal, 2010); however, PTSD symptoms can in turn have a negative impact on a victim's familial relationships and social support systems. One study showed that individuals with PTSD who have experienced emotional numbing are more likely to withdraw from familial support and social situations, which can hinder healing from PTSD symptoms (Ray & Vanstone, 2009). Similar to financial distress, social withdraw can create more dependency between the victim and their abuser. In other words, social and familial support can be essential for women to leave their abusers, heal from their PTSD symptoms, and protect against reabuse, but if victims are losing social support, they may be more likely to be vulnerable to the reabuse cycle. This can be especially true if their PTSD symptoms manifest as numbing, anger, or withdrawal.

Internal effects of PTSD on the reabuse cycle can be more difficult to observe and involve breaking down PTSD symptomology into the four typical symptom clusters. In other words, studies have found that some symptom clusters are more related to a person's risk of reabuse than others. For example, avoidant coping methods have been found to raise an individual's risk of revictimization or reabuse (Krause et al., 2008). The numbing symptom cluster of PTSD has also been found to be the most related cluster to a person's risk of reabuse.

However, often in IPV PTSD studies, the avoidance and numbing cluster is split into two separately considered clusters – this is because numbing symptoms tend to produce different observed rates of revictimization/reabuse and correlate with other symptom clusters differently than avoidance symptoms, and are therefore often examined separately (King et al., 1998; Krause et al. 2006; Krause et al., 2007). Moreover, studies show that numbing symptoms and avoidance symptoms are different symptom structures neurobiologically (Foa, Riggs, & Gershuny, 1995).

One study found that both numbing and hyperarousal PTSD symptom clusters were significant predictors of revictimization/reabuse experienced within a year compared to women who were not subsequently reabused (Krause, Kaltman, Goodman, & Dutton, 2006). In this study, Krause, Kaltman, Goodman, & Dutton (2006) wanted to know the impact of each of the four PTSD symptom clusters on reabuse. They used victims of IPV as participants, assessing them for all four PTSD symptom clusters, then followed up a year later to determine if the participants had experienced reabuse during this interim period. They had also collected data on participants' severity of IPV experience, history of childhood violence, and characteristics of abusive relationships – using these as covariates. The results showed that both hyperarousal and numbing symptoms were higher at baseline for the women that were subsequently reabused, but after controlling for the covariates, only the numbing symptoms increased the odds of reabuse. The researchers concluded that specific symptoms of PTSD, especially the numbing and avoidance symptoms should be researched further in order to potentially increase the safety of women seeking services after an IPV event.

The theory behind why this relationship between numbing symptoms and reabuse exists is that the numbing symptoms of PTSD may negatively affect a victim's appropriate fight-or-flight response and risk evaluation ability (Shalev, Liberzon, & Marmar, 2017; Bockers et al., 2014; Fortier et al., 2009; Wilson et al., 1999). The effect of the numbing symptom cluster tends to be that individuals can become less aware of emotional stimuli and then they tend to experience a numbing of general responsiveness. When high arousal states are ignored then risk evaluation is hindered, victims can find themselves in situations where they are at a higher risk of being victimized, but without the physiological tools to assess and consider a fight-or-flight response. This leaves victims more vulnerable to abuse than their nonvictim counterparts.

However, other studies show that the PTSD numbing cluster does not significantly predict reabuse, but the hyperarousal symptom cluster does. A study found that among undergraduate women, only the hyperarousal symptom cluster was a significant mediator of sexual reabuse (Risser, Hetzel-Riggin, Thomsen, & McCanne (2006). A second study also found that among IPV help-seeking women the hyperarousal symptom cluster was the only cluster that significantly predicted IPV reabuse (Iverson et al., 2013).

The reason behind why the relationship between hyperarousal symptoms and reabuse exists is generally broken up into two main theories. The first is that when a victim is experiencing hyperarousal nearly constantly, their physiological threat assessment mechanisms eventually become exhausted, dulling their ability to accurately identify real threat (Cloitre & Rosenberg, 2006). The second theory is because when a victim is hyperaroused, they are in a constant state of alertness and most stimuli seems to be a threat in some way or another, distracting the victim from actual threat (Iverson et al., 2011).

To summarize, unemployment, financial distress, and lack of social support are all external influences of IPV and PTSD on the reabuse cycle. However, internal factors are also at play. One of the most common themes discussed above regarding the impact of PTSD on reabuse is the idea that whether due to numbing or hyperarousal, a victim's response to threat cues tends to becomes dampened through physiological overstimulation. Another way of explaining this phenomenon is to say that IPV and PTSD can have a negative impact on an individual's threat perception abilities which can lead to increased vulnerability to danger and reabuse.

Threat Perception

Risk recognition, threat appraisal, perceived risk, etc. are all terms used in the literature to similarly describe how a person perceives a threatening situation, what will be referred to in this study as threat perception. In literature, threat perception is defined as personal assessments of potential threats of harm or danger to self or others (King et al., 1995).

According to Breakwell (2007), threat perception is important, because it can affect the chances of a dangerous event occurring and/or the severity of the consequences of the event itself. Due to this importance, in the last decade or so, researchers have begun to study threat perception mechanisms as potential risk or protective factors of IPV and sexual assault victims. If threat perception ability varies depending on trauma history and PTSD symptomology, then it may be a variable that can be used in order to better predict and assess victims' risk of being reabused or retraumatized (Bell, Cattaneo, Goodman, & Dutton, 2008; Cattaneo, Bell, Goodman, & Dutton, 2007; Conner-Smith, Henning, Moore, & Holdford, 2011).

Optimism Bias. One of the first concepts that was used to say people may perceive event outcomes differently was introduced by Weinstein (1987), called comparative optimism. Comparative optimism refers to the phenomenon that people believe they are more likely than their peers to experience positive events, and less likely than their peers to experience negative events. Some researchers have used Weinstein's concept of comparative optimism to theorize relationships between threat perception and sexual assault risk, saying that although believing you are more likely to experience positive events doesn't necessarily lead to negative outcomes, there is a possibility that believing you are less likely to experience negative events could lead to riskier behavior or failure to take precautions (Sheppard, Carroll, Grace, & Terry, 2002). One may believe this theory could also be applied to threat perception and risky relationships and relationship-related situations leading to IPV events.

However, some studies have shown that women with sexual victimization histories are more likely to perceive themselves at a higher risk for sexual assault than women without sexual victimization histories. The research suggests that when women have a personal experience with a specific type of negative event (e.g., sexual assault, domestic violence, etc.), the optimistic bias decreases (Weinstein, Lyon, Rothman, & Cuite, 2000). Helweg-Larsen and Sheppard (2001) suggested that because trauma-exposed individuals possess certain traits (e.g., negative affective states, personal identification with the victim role, etc.) that their threat perception abilities are actually increased. Therefore, the conclusion may be drawn that comparative optimism may put people at risk to be victimized the first time, but if this bias is inversed after the first event, these individuals should be less likely to victimized subsequent times. However, the majority of the body of IPV research discussed prior shows that this is not the case and victims are in fact more

likely to be revictimized that the average person is to be victimized initially. In other words, the data so far is mixed about the relationship between relationship trauma history and situational threat perception, especially regarding the optimism bias.

PTSD and Threat Perception. According to Dutton (2003), battered women's appraisal of future violence and abuse, otherwise known as her threat perception is prospectively associated with high levels of PTSD symptoms. Moreover, PTSD has been speculated to contribute to women's vulnerability to reabuse in a number of ways over the years and many of these ways lead back to the concept of threat perception. For example, one theory is that the emotional numbing symptoms of PTSD that victims experience can lead to a subsequent desensitization of threat cues (i.e., an inhibition of threat perception accuracy), according to Chu, 1992.

Studies have shown that the presence of numbing symptoms of PTSD can also be a significant predictor of reabuse (Krause, Kaltman, Goodman, & Dutton, 2006)—perhaps the increased risk is related to the desensitization of threat cues and inhibited threat perception. Experts believe that when these symptoms of emotional numbing interfere with a threat perception, they are less able to experience anticipatory anxiety associated with danger cues leading them to have a dampened response to threat (Chu, 1992). This desensitization can likely hinder a victim from recognizing abusive warnings, or relationship-related threat perception, in both their previously abusive partners or even new and potentially abusive partners. Due to this relationship found in the research, PTSD and its symptom clusters are included and assessed for in the current study.

Situational Threat Perception. There are usually two levels of threat perceptions recognized in the literature: a general estimate of perceived vulnerability, and situational risk recognition. Regarding the former, general estimate of perceived vulnerability, researchers have suggested that some individuals—even without personal experiences to confirm this risk perception bias—possess greater general awareness that women are at risk of being sexually victimized (Norris, Nurius, & Graham, 1999). However, the latter level of threat perception is more of interest for the current study: situational risk recognition, or situational threat perception. Specifically, when the situation is a relationship-related interaction that is likely to conclude as an IPV event.

Currently, the research is divided regarding the role situational threat perception plays in the victimization of women. One school of thought is that when situational threat perception is delayed, women are at a higher risk of sexual assault (Marx, Calhoun, Wilson, & Meyerson, 2001; Soler-Baillo, Marx, & Sloan, 2005; Wilson, Calhoun, & Bernat, 1999)—and theoretically, IPV. A second school of thought is that delayed threat perception is not the culprit, but an unassertive behavioral response to a sexual assault situation (Breitenbecher, 1999; Naugle, 2000; VanZile-Tamsen et al., 2005). In other words, threat perception remains intact and these individuals recognize the situation as well as anyone else, but lack the ability to assert themselves, defend themselves, and/or leave the situation.

In one study that found a relationship between abuse history and threat perception deficits, researchers used audio-taped vignettes that depicted an interaction between a man and woman that eventually escalated into a rape (Marx & Gross, 1995). In order to assess threat perception, participants were instructed to stop the tape when they believed the man had “gone

too far." The researchers found that women with more extensive trauma histories had longer response times, interpreted as delayed threat perception. Their threat perception was significantly more delayed than women when one traumatic incident or non-victims. In addition, the women who had experienced multiple traumatic events with more delayed threat perception abilities reported significantly lower PTSD arousal symptoms than women with equally extensive trauma histories but shorter response latencies. This research would suggest that not only does trauma history negatively impact threat perception, but the mediating factor would be one of the PTSD clusters, or lack thereof. A second study by Soler-Baillo et al. (2005), also used audio-recorded vignettes in a similar manner as before. Their reported results agreed with the previous study in that women with adult victimization history had longer response latencies than women without adult victimization histories.

Lastly, in a study conducted on an undergraduate population, Yeater and O'Donohue (2002) examined the length of time it took to train women to recognize risk using a written vignette. Women with single, multiple, and no sexual assault histories were compared in the time it took to train them to recognize risk. The results were unique in that they showed that women how had experienced a single took the longest to train to recognize risk in comparison to non-victims and multiple-incident victims, who took a similar amount of time to train. The researchers theorized that women with extensive assault histories were likely better at differentiating risk than single assault victims. To be noted however, a limitation of this study was its retrospective nature; meaning it's not exactly clear whether the differences found in risk recognition were due to the results of the victimization experience or if they preceded the victimization experience.

However, there is also research that suggests victimized women do not possess deficits in threat perception. One such study was conducted by Breitenbecher (1999), where a sample of college women were asked to identify risk factors for sexual assault in an interaction between and man and a woman depicted in a video to assess for threat perception. Five months after the threat perception assessment, Breitenbecher followed up with the women and assessed them for victimization events that may have occurred during the five-month interim period. Breitenbecher found that the threat perception abilities she had assessed for at the beginning of her studies were not statistically related to victimization status at the five-month follow-up. Therefore, she concluded that threat perception deficits were not related to future victimization.

In addition, according to Messman-Moore & Brown (2006), their research shows that women will get uncomfortable around the same time while reading vignettes outlining sexual assault threat—regardless of trauma history. However, women with more extensive trauma histories were slower to react or respond. This indicates that the women with trauma and victimization histories were just as able to perceive threat as the women who were not identified to have trauma or victimization histories, but their responses to the situational threat were significantly slower.

Lastly, in another study using video-taped vignettes of different sexual assault scenarios, Naugle (2000), found that women with sexual assault histories rated the three sexual assault vignettes as “riskier” than women without such histories. However, the same women with increased assessed threat perception were found to be more likely to comply with the vignette situation. The conclusion of the study was that women with assault histories had just as good threat perception abilities, if not better, than women without such histories; however, they

responded less assertively to the situation—potentially putting themselves at higher risk of victimization.

Therefore, some studies concluded that threat perception is related to victimization status—either past or future; yet, other studies were unable to find this relationship and drew other conclusions. The most common conclusion being that victimization status is more related to the behavioral response—or lack thereof—to a potential threat, not their ability to perceive the threat itself.

Cognitive-Ecological Model of Threat Recognition. An explanation for this unassertive behavior that gets cited in threat perception literature was presented by Nurius & Norris (1995) in their cognitive-ecological model of threat recognition. In this model, the researchers suggest that there are two levels of appraisals that people consider before responding in particular situations.

According to Nurius & Norris (1995), the primary appraisal is the person's initial assessment of the threat. The researchers explain that sometimes people may have less accurately appraise the initial threat early in the situation, because the warning signs are positively obscured by certain elements (e.g., intoxication may negatively affect a person's ability to pick up on risky social cues).

The secondary appraisal is explained as a cost-benefit analysis that's weighed after the initial threat is recognized and processed. Women who have been attacked or abused before may recognize the threat just as quickly, if not more quickly, than women who have not been victimized. However, they may weigh the costs and benefits of responding differently, deciding not to respond assertively.

The researchers hypothesize that this model is most salient in social situations, such as at bars or parties. In these social situations, one of the consequences/costs that women must weigh when they are confronted with a threat and must decide to respond assertively or not, is the social consequence (e.g., rejection or embarrassment). Therefore, this model may offer explanation for why women may have a delayed response time rather than hindered threat perception. However, the model operates under the condition that women experience this delayed response in social situations or that the perpetrator is an acquaintance—some social context is required. Therefore, this model would not explain why women have been assessed to have a delayed response or impaired threat perception outside of social influences or in response to vignettes describing an interaction between strangers.

In the current study, threat perception is assessed outside of social influences. In addition, the current study is examining threat perception within the context of IPV, not sexual assault or sexual coercion as the model was demonstrated for.

Threat Perception Assessment. Inconsistencies in research can be expected when the topics of research are as complex as these. Some reasons cited for these inconsistencies include: the use of prospective designs vs. retrospective designs, the very definition of sexual assault used in each study, and the lack of consistency in the use of vignettes to assess for threat perception (Gidycz, McNamara, & Edwards, 2006).

In a review of the literature regarding sexual assault victimization and threat perception, Gidycz, McNamara, & Edwards (2006) criticized the use of written vignettes to assess threat perception for several reasons. One of these reasons being that participants may purposefully mark that they recognized the threat earlier than they actually did after realizing the scenario

escalates into a rape. To address this concern, the point at which the participant realizes the threat was eliminated and replaced with a question asking participants how threatening the situation was. In other words, our study focuses on the how much, not the when, to assess for threat perception. Another of these reasons being that none of the studies cited above utilized a control vignette that was not a risky situation. They wrote that without a low-risk scenario to use for comparison, "the possibility that participants do not evidence similar kinds of responses to low-risk situations cannot be ruled-out." Therefore, for this reason, in the current study, a nonthreatening, benign vignette is utilized.

Due to the inconsistencies of the research thus far, one can conclude that further research on the subject of threat perception and risk vulnerability is needed. In addition, most research on threat perception and its relation to risk vulnerability has focused on only sexual assault vulnerability, and not on IPV vulnerability.

Rationale for the Current Study

Using a within-subjects design, participants read five different vignettes that described an argumentative interaction between members of a heterosexual couple. In addition to reading the vignettes, participants responded to measures that assessed exposure to IPV and trauma history as well as PTSD symptom endorsement. The first vignette outlined a benign, non-threatening disagreement and the fifth vignette outlined a severely threatening argument that highlights an overtly abusive situation. Lastly, the participants responded to a number of questions regarding how severe they believed the interaction to be, how threatened they believe they would feel in this situation, whether they believed the interaction could be considered an IPV situation, and what they believe they would do if they were in the situation.

The hypothesis was that PTSD symptomology would significantly impact the participants' abilities to accurately evaluate threatening relationship situations. Moreover, some PTSD symptom clusters were expected to impact this threat perception moreso than others, especially the avoidance/numbing cluster. In other words, the prediction was that participants who are experiencing numbing symptoms would evaluate threatening situations as less threatening than their counterparts who were not experiencing numbing symptoms, essentially leaving them more vulnerable to reabuse in the future. If this is the case, this study will be congruent with the current body of literature that emphasizes the relationship between PTSD, threat perception, and reabuse vulnerability. In addition, the expectation is to see a graded decrease in accuracy with the greater severity of PTSD numbing symptoms and/or extensiveness of IPV history.

A unique aspect of this study is the examination of the phenomena of reabuse without conducting a longitudinal study. Historically, longitudinal studies have been used almost exclusively to study reabuse and revictimization. This is because researchers agree that PTSD symptoms in relation to IPV should be studied as close to the events as possible (Krause et al., 2008). However, longitudinal studies can be difficult time-wise, retention-wise, and cost-wise. In addition, longitudinal studies involving high-risk populations such as women with a history of IPV experiences or who are currently in an IPV relationship can put participants in danger multiple times over the course of the study when researchers attempt to contact these participants multiple times to update data. Therefore, one goal of this study was to contribute to research regarding reabuse and the predictive factors involved using a cross-sectional study design.

A secondary aspect of this study that made it unique is the addition of a control vignette as an anchoring point. According to Gidycz, McNamara, and Edwards (2006), studies of this nature that use vignettes to gauge women's risk perceptions have never used a control vignette—at least at the time of their literature review, and currently to the best of our knowledge. Because a control vignette outlining a benign relationship interaction was used in this study, a true comparison could be made to rule-out the possibility of that participants simply respond with similar responses across the spectrum of risk situations.

The hope behind this study was to show whether certain PTSD symptom clusters (i.e., numbing and hyperarousal) have a larger effect on reabuse potential due to hindered threat assessment ability. Measures that assess for these symptom clusters specifically can be applied in domains such as women's shelters or law enforcement domestic dispute situations. Women who endorse the symptom clusters found to relate the most to reabuse may then be given resources that they need to treat their symptoms and therefore lower their risk of reabuse.

Understanding exactly how the PTSD symptom clusters relate to reabuse is important, because treatments exist for IPV victims that focus on PTSD symptoms specifically. If the relationship between different cluster symptomology and reabuse can be further understood, these treatments could potentially become more effective or be more widely accepted and utilized. To further the research in this area, the goal of this study was to evaluate risk assessment in individuals who have never experienced IPV, who have experienced an IPV event once, and who have experienced IPV reabuse; compare their potential PTSD cluster symptomology; and comparing how they respond to a hypothetically abusive vignette.

Unfortunately, most therapies that have been developed as of yet for IPV related PTSD are specifically for women who have permanently left their abuser and have established physical safety – therapies like these exclude the population of women who are at high risk for revictimization/reabuse (Kubany & Watson, 2002; Kubany et al., 2004). A more generalized IPV PTSD treatment was later developed by Johnson et al. (2011) called Helping to Overcome PTSD through Empowerment (HOPE). HOPE was found to lower rates of reabuse over a 6-month period, indicated by a post-shelter follow-up (Johnson, Worell, & Chandler, 2005).

At 3 and 6-month follow ups after HOPE treatment, women were found to be significantly more empowered, more likely to be employed, and less likely to be experiencing PTSD symptoms compared to IPV victims that did not receive the HOPE treatment (Johnson, Johnson, Perez, Palmieri, & Zoltnick, 2016). In addition, a modified version of HOPE therapy included expanded modules on substance relapse and emotional numbing. In other words, the HOPE treatment addresses most of the key factors of reabuse found in literature: substance use, the numbing PTD symptom cluster, employment, and empowerment – making for a very effective and multi-dimensional treatment.

Therefore, utilizing a therapy like HOPE may prove to be very helpful for women with IPV related PTSD symptoms. However, it is not cost or time effective to provide every woman entering a women's shelter HOPE therapy; especially when HOPE treatment can take an estimated 22 weeks per person. In order to implement HOPE or other treatments like HOPE on a wide scale, but in an economically and efficient manner, efforts must be made to be able to identify women that are at the highest risk of being revictimized. The ultimate goal in the future is to create a measure that is both nonvictimizing, yet effective at IPV victim risk assessment. If

women that are measured to be at high risk for reabuse—based on the presence of certain PTSD symptom clusters or hindered threat perception ability—can be given adequate resources such as HOPE or other PTSD-focused treatment, many reabuse cycles could hopefully be broken. In addition, these resources could be used more widely and economically. Which is why further study regarding risk evaluation and numbing symptoms of PTSD's relationship with reabuse can be beneficial for an at-risk population.

Nonvictimization of Data Collection

First of all, creating a nonvictimizing measure is important (Sullivan & Cain, 2004; Hlavka, Kruttschnitt, & Carbone-Lopez, 2007). Questioning participants about traumatic life experiences can have an adverse effect on these participants; therefore, extra steps must be taken to ask questions that avoid objectifying or distressing participants (Bergen, 1993). If a measure or questionnaire is victimizing, the survivor may emotionally relive the trauma (Castor-Lewis, 1988). Not only do victimizing measures negatively impact the participants emotionally, but they have also been found to negatively affect participant disclosure (i.e., how much the participant is willing to report on their experiences). This phenomenon has been found to be especially the case with participants who have been exposed to the multiple victimizing experiences (Hlvaka, Kruttschnitt, & Carbone-Lopez, 2007). Therefore, when conducting this study, extra steps were be taken in order to attempt to avoid discrimination and retraumatizing the victims while also gathering as much information as possible.

CHAPTER II

Method

Participants

499 adults who identified as women were recruited through Amazon's Mechanical Turk (MTurk). A set of preliminary questions about age and gender allowed only adult women to move forward to take part in the actual survey. The MTurk participants were compensated for taking part in the study with $0.50/person as a small monetary incentive for their time. The participants ranged in age from 19 to 72 (M = 36.8; SD = 11.7). The participants sampled identified as Caucasian/White (70.1%), Asian or Pacific Islander (16.6%), African American/Black (6.8%), Hispanic/Latina (3.2%), Native American/Alaska Native (1.0%), Middle Eastern (0.2%), and other (2.0%).

Materials

Demographic Questionnaire. The demographic questions that participants answered were based on demographics questions used by Vatnar & Bjorkly (2008) in an intersectional study of intimate partner violence. Additional demographics questions for this study were modeled after those used in a study to determine the best practices in measuring social class in psychological research by Diemer et al. (2013).

Demographic areas that were assessed included: age, ethnicity, income-level, education, occupation/income source, parental status, relationship with current partner, and living situation information.

Abuse History Screening. Participants were assessed for prior abuse and interpersonal traumas. The traumas that were assessed for included: physical assault by a stranger or partner, sexual assault by a stranger or partner, and physical, sexual, or psychological abuse as a child. Each participant was asked to respond "yes" or "no" for each experience to indicate whether they had had experienced each trauma or not. Then, for each yes response, they were asked for their age at the time of the experience. Participants were told that if a specific type of event occurred multiple times that they should separate ages by a comma (ex. 3, 7, and 16) or to combine a period of ages with a hyphen. This scale is included in Appendix A.

Severity of Violence Against Women Scale. To assess for IPV victimization history, a scale was used called the Severity of Violence Against Women Scale (SVAWS; Marshall, 1992). The SVAWS is a 46-item self-report scale that measures partner conflict responses experienced over the course of a one-year period. For the purposes of the current study, the time-period assessed for was broadened from "one-year" to "ever". The internal consistency for the original SVAWS prior to modification is .89-96 for women in the community (Marshall, 1992). The internal consistency that was measured for the current data set was high (α = 0.983). This scale is presented in Appendix B.

Posttraumatic Diagnostic Scale, 5th Edition. PTSD symptomology was evaluated using the Posttraumatic Diagnostic Scale, 5th edition, created for the DSM-5 criteria (PDS-5; Foa et al. 1995, modified), because this PTSD scale specifically separates distinguishes among different

symptom clusters. Therefore, each symptom cluster could be used independently as a predictor. The PDS-5 measure is a 24-item self-report questionnaire that primarily uses Likert-scale style questions to evaluate symptomology and multiple-choice style questions to determine symptom onset and duration.

The PDS-5 scale asks the participant to reflect on symptoms or events that they have experienced over the last month prior to testing. In order to test for more historical PTSD symptoms, the PDS-5 was modified for the purposes of the study from the original one-month timeframe to any time for the participant to reflect on. The internal consistency of the PDS-5 scale prior to modification was high ($\alpha = .95$; Foa et al., 2016). Analysis has also found a 78% agreement correlation between diagnosis using PDS-5 and a standard structured clinical interview using the DSM prior to modification (Foa et al., 2016). The internal consistency of the current data set was also high ($\alpha = 0.970$). This scale is presented in Appendix C.

Vignettes

In order to assess individual differences in threat perception, five vignettes were created to represent varying levels of situational threat within a relationship interaction. Each of the five vignettes described an interaction between a heterosexual married couple. For the purpose of this study, threat was conceptualized as the level of danger that someone is in. The potential threat of abuse increased with each vignette from benign (no threat) to severe abuse (definite threat). The benign, nonthreatening vignette was used as a baseline for participant reactions. When presented to participants, the order that the vignettes were presented was randomized. The vignettes are presented in Appendix D; the items used to evaluate participant responses to the vignettes are presented in Appendix E.

Overall Threat Perception Assessment. Participants each read all five vignettes and responded to ten subsequent Likert-scale questions from 1 (Strongly Disagree) to 7 (Strongly Agree) to assess for overall threat perception, with higher scores indicating more perceived threat. The ten vignette questions included participants' opinions on whether the wife in the situation should be concerned for her safety, concerns about future behavior, etc. Of the ten vignette questions, questions 2, 5, and 9 were reverse-coded. The mean of the vignette questions was then computed to create a composite variable for overall threat perception.

Procedure

Participants completed the study online via MTurk. Before subjects were able to participate in the study, they were given a preliminary quiz to determine their eligibility. The quiz asked them for their age and gender identity. Participants who were determined to be under the age of 18 or who identified as male were unable to continue on to the full study.

This study employed a within-subjects design where each participant was exposed to all five vignettes, counterbalanced. Each of the five vignettes represented a gradual increase in situational threat. After reading each vignette, participants answered questions on situational threat, future threat, indicators of abuse, the likelihood of future threat, etc.

In addition to vignette responses, participants also completed a demographics questionnaire, an IPV victimization scale (SVAWS), an IPV trauma history screen, and a PTSD symptomology measure (PDS-5). Each item of the SVAWS scale was added up and the total was used as a single independent variable. The IPV trauma history screen was used to determine the percentages of the sample population that had experienced any form of IPV in the past (e.g., childhood sexual abuse, adulthood physical abuse by a partner, etc.). The PDS-5 results were

used to compute five independent variables – a total score, and four subscale scores. The four subscale scores represented hyperarousal cluster endorsement, intrusion cluster endorsement, negative mood and cognitions cluster endorsement, and avoidance/numbing cluster endorsement.

CHAPTER III

RESULTS

Data Preparation

Exclusionary Criteria. First, all participants who identified as male or under the age of 18 were excluded from the data set. Next, all participants whose progress was less than 92% were deleted from the data set. Lastly, participants with duplicate IP addresses were deleted. To correct for participants taking the survey more than once, the data were examined and when an IP address appeared more than once, all duplicate data points were deleted with the exception of the first completed.

Final Sample. After data pruning, the 499 participants remained. Table 1 displays the frequency of participants who indicated that they had experienced some form of victimization either in adulthood or childhood. These frequencies were calculated using the Trauma History Screen and can be used to represent IPV victimization history using broader categories than the more specific items on the SVAWS.

Threat Perception Variables. To create a continuous composite variable to assess the perceived threat level of each vignette, the mean of the Likert questions was computed for each vignette to create a composite score. With the exception of the first vignette, all 10 questions were used to create this composite variable. For the first vignette, item number 4 was not included in the composite variable; this decision will be further explained in the reliability

analysis section. These composite scores were used as dependent variables to represent overall threat perception at each level of severity. The higher the mean score, the more overall threatening the participant perceived the partner in the vignette seemed to be. Cronbach's alpha was computed for the dependent variable items, indicating a high consistency for each vignette ($\alpha = 0.913$ for vignette 1; $\alpha = 0.8.30$ for vignette 2; $\alpha = 0.895$ for vignette 3; $\alpha = 0.898$ for vignette 4; and $\alpha = 0.934$ for vignette 5). Table 2 displays descriptive statistics for each of the items, as well as the composite variable, for each of the five vignettes for all participants.

Prior Intimate Partner Violence. To compute the predictor variable of past IPV victimization severity, all 46 of the items endorsed on the SVAWS scale were summed to create a single composite score that indicates the severity and extent of IPV victimization experienced by each participant. The higher the SVAWS score, the greater the IPV victimization that was endorsed by the participant. Similarly, All of the PTSD symptom items were also summed to create a composite PTSD symptom total variable.

PTSD Symptom Cluster Variables. To create the PTSD symptom cluster variables, the individual PDS-5 items endorsed were separated based on diagnostic criteria in the DSM-V. Items 1-5 were summed to create the intrusion cluster variable; items 6-7 were summed to create the avoidance cluster variable; items 8-14 were summed to create the negative mood/cognition cluster variable; and items 15-20 were summed to create the hyperarousal cluster variable. A cutoff for each of these clusters was then applied based on DSM-V criteria in order to create dichotomous variables—either the participants endorsed a cluster or not. For example, the DSM-V criteria requires endorsement of at least two hyperarousal symptoms to meet the criteria for the hyperarousal cluster. Therefore, if a participant's summed score on items 15-20 was 2 or greater,

they were coded as 1 (Hyperarousal) and if their summed score was 0 or 1, they were coded as 0 (No Hyperarousal). The same method was used for all four symptom cluster variables, using the DSM-V criteria for each.

Reliability Analysis

To determine the reliability of the threat perception composite variables, Cronbach's alpha was calculated for the questions that followed each vignette. The overall Cronbach's alpha for each vignette was higher than if any questions were deleted, with the exception of the first vignette (no threat). For the first vignette, the overall Cronbach's alpha was high ($\alpha = 0.862$); however, if question 4 was deleted, the overall Cronbach's alpha would increase ($\alpha = 0.913$).

Item 4 appears to lower the overall consistency of vignette 1 responses is due to the constancy of the nature of the question compared to the gradual nature of the vignettes. The average responses to the other nine questions for the first vignette were significantly lower than the average response for question 4, because participants believed there was a high likelihood that the man in the scenario would behave the same way (non-abusive) in the future. In other words, question 4 for vignette 1 did not indicate that threat was present, making item 4 irrelevant for evaluating threat perception in vignette 1. For that reason, question 4 was excluded from the mean of vignette 1 in further analyses.

The final Cronbach's alpha for each composite variable is reported in Table 2, as well as the Cronbach's alpha if each item of each vignette were deleted.

Correlations

Correlations among the dependent variables, IPV victimization scores, and PTSD cluster symptoms were calculated. Although most of the variables were significantly correlated with

each other, several were not. For example, the composite variable for threat perception of vignette 2 did not appear to significantly correlate with any of the independent variables, including IPV victimization severity or any of the PTSD endorsements. Hyperarousal was the most correlated PTSD symptom cluster for threat perception. IPV severity was highly correlated with all of the PTSD symptom clusters and PTSD total. The largest effect sizes were seen for vignette 1 and vignette 5 means, when compared with the other vignette means. Moreover, vignette 1 and vignette 5 were the only vignette means to correlate with all six independent variables. All of the correlations are displayed in Table 3.

Analysis of Variance

To verify that the five vignettes were rated as different levels of threat, a repeated measures ANOVA was conducted. Mauchly's test of sphericity indicated a violation of this assumption, $\chi^2(9) = 766.92$, $p < .001$, so the lower-bound estimate for effects was used. The results of the repeated-measures ANOVA indicated that differences in ratings for the vignettes were significant, $F(1,498) = 1346.90$, $p < .001$. To determine which of the pairwise comparisons for the vignettes significantly differed from each other, multiple comparisons were conducted using paired-samples t-tests with a Bonferonni correction ($\alpha = .005$). These comparisons indicated significant mean differences ($p < .005$) for all pairwise comparisons except the comparison between vignette 3 and vignette 4 ($p = .018$).

Next, a 2 (symptom cluster, no symptom cluster) x 5 (vignette means) ANOVA was run for each of the PTSD symptom clusters. Starting with avoidance, Mauchly's test of sphericity indicated a violation of this assumption, $\chi^2(9) = 760.29$, $p < .001$, so the lower-bound estimate for effects was used. The results of the ANOVA indicated that differences in ratings for the

vignettes based on the avoidance symptom cluster were significant, $F(1,497) = 6.33$, $p = .012$. To determine which of the pairwise comparisons for the vignettes significantly differed from each other, multiple comparisons were conducted using paired-samples t-tests with a Bonferroni correction ($\alpha = .005$). These comparisons indicated significant mean differences ($p < .005$) for all pairwise comparisons except the comparison between vignette 3 and 4 ($p = .296$). Lastly, for avoidance, the greatest differences in estimated marginal means occurred for vignette 1 (mean = -0.39) and vignette 5 (mean = 0.32). Essentially, participants who met criteria for avoidance rated vignette 1 (nonthreatening, benign situation) as significantly more threatening than participants who did not meet criteria for avoidance. Moreover, participants who met criteria for avoidance rated vignette 5 (most threatening situation) as significantly less threatening than participants who did not meet criteria for avoidance symptoms.

For hyperarousal, Mauchly's test of sphericity indicated a violation of this assumption, $\chi^2(9) = 723.59$, $p < .001$, so the lower-bound estimate for effects was used. The results of the ANOVA indicated that differences in ratings for the vignettes based on the hyperarousal symptom cluster were significant, $F(1,497) = 21.71$, $p < .001$. To determine which of the pairwise comparisons for the vignettes significantly differed from each other, multiple comparisons were conducted using paired-samples t-tests with a Bonferroni correction ($\alpha = 0.005$). These comparisons indicated significant mean differences ($p < .005$) for all pairwise comparisons except the comparison between vignette 3 and 4 ($p = .238$). Lastly, for hyperarousal, the greatest differences in estimated marginal means occurred for vignette 1 (mean = -0.60) and vignette 5 (mean = 0.52). Essentially, participants who met criteria for hyperarousal rated vignette 1 (nonthreatening, benign situation) as significantly more threatening than

participants who did not meet criteria for hyperarousal. Moreover, participants who met criteria for hyperarousal rated vignette 5 (most threatening situation) as significantly less threatening than participants who did not meet criteria for hyperarousal symptoms.

For the negative mood/cognitions cluster, Mauchly's test of sphericity indicated a violation of this assumption, $\chi^2(9) = 726.19$, $p < .001$, so the lower-bound estimate for effects was used. The results of the ANOVA indicated that differences in ratings for the vignettes based on the negative mood/cognitions symptom cluster were significant, $F(1,497) = 18.79$, $p < .001$. To determine which of the pairwise comparisons for the vignettes significantly differed from each other, multiple comparisons were conducted using paired-samples t-tests with a Bonferroni correction ($\alpha = 0.005$). These comparisons indicated significant mean differences ($p < .005$) for all pairwise comparisons except the comparison between vignette 3 and 4 ($p = .189$). Lastly, for negative mood/cognitions, the greatest differences in estimated marginal means occurred for vignette 1 (mean = -0.58) and vignette 5 (mean = 0.63). Essentially, participants who met criteria for negative mood/cognitions rated vignette 1 (nonthreatening, benign situation) as significantly more threatening than participants who did not meet criteria for negative mood/cognitions. Moreover, participants who met criteria for negative mood/cognitions rated vignette 5 (most threatening situation) as significantly less threatening than participants who did not meet criteria for negative mood/cognitions symptoms.

Finally, for intrusion, Mauchly's test of sphericity indicated a violation of this assumption, $\chi^2(9) = 765.75$, $p < .001$, so the lower-bound estimate for effects was used. The results of the ANOVA indicated that differences in ratings for the vignettes based on the intrusion symptom cluster were significant, $F(1,497) = 4.331$, $p = .038$. To determine which of

the pairwise comparisons for the vignettes significantly differed from each other, multiple comparisons were conducted using paired-samples t-tests with a Bonferroni correction (α = 0.005). These comparisons indicated significant mean differences ($p < .005$) for all pairwise comparisons except the comparison between vignette 3 and 4 ($p = 1.000$). Lastly, for intrusion, the greatest differences in estimated marginal means occurred for vignette 1 (mean = -0.29) and vignette 5 (mean = 0.27). Essentially, participants who met criteria for intrusion rated vignette 1 (nonthreatening, benign situation) as significantly more threatening than participants who did not meet criteria for intrusion. Moreover, participants who met criteria for Intrusion rated vignette 5 (most threatening situation) as significantly less threatening than participants who did not meet criteria for intrusion symptoms.

Regression Analyses

A series of hierarchical multiple regressions were conducted for each vignette with threat perception as the dependent variable. IPV Victimization Severity was entered at stage one of the regression and the PTSD symptom clusters (intrusion, avoidance, negative mood/cognitions, and hyperarousal) were entered at stage two. The PTSD variables were entered in this order as it seemed chronologically plausible given that the PTSD symptoms likely stem from the IPV history. The goal was to determine if the symptom clusters predicted threat perception above and beyond the history of IPV victimization severity. The regression statistics are reported in Table 4.

The hierarchical multiple regression revealed that for vignette 1, at stage one IPV victimization severity contributed significantly to the regression model, $F(1,494) = 197.06$, $p < .001$ and accounted for 28.5% of the variance in vignette response (threat perception).

Introducing the PTSD cluster symptomology (total number of symptoms endorsed for each symptom cluster individually), explained an additional 0.6% of the variance in vignette response and this change in R^2 was significant. For vignette 2, at stage one, IPV victimization severity did not contribute significantly to the regression model, $F(1,495) = 0.03$, $p = .857$. Introducing the PTSD cluster symptomology was also not statistically significant in the regression model, $F(5,495) = 1.13$, $p = 0.35$, indicating that IPV victimization severity and PTSD cluster symptomology were not significant predictors for threat perception at threat level 2. For vignette 3, at stage one IPV victimization severity contributed significantly to the regression model, $F(1,495) = 40.09$, $p < .001$ and accounted for 7.5% of the variance in vignette response. Introducing the PTSD cluster symptomology at stage two explained an additional 2.2% of the variance and this change was significant. For vignette 4, at stage one IPV victimization severity contributed significantly to the regression model, $F(1,495) = 31.38$, $p < .001$ and accounted for 6% of the variance in vignette response. At stage two, introducing the PTSD cluster symptom variables, explained an additional 1.5% of vignette response variance, contributing significantly to the regression model. Lastly, for vignette 5, at stage one IPV victimization severity contributed significantly to the regression model, $F(1,495) = 158.67$, $p < .001$ and accounted for 24.3% of the vignette response variance. At stage two, introducing the PTSD cluster symptom variables explained an additional 3.5% of vignette response variation, contributing significantly to the regression model.

According to these results, the IPV victimization severity contributed much more to the model than PTSD symptomology. In addition, the predictors were most strongly related to threat

perception for vignette 1 and vignette 5 with weaker relationships observed in the middle three vignettes.

CHAPTER IV

DISCUSSION

The goal of the current study was to better understand the relationship between threat perception, PTSD symptomology, and IPV victimization severity. The hypothesis was that both PTSD symptoms and IPV history would impact how participants interpreted situational threat in a relationship setting. Moreover, the effect of PTSD was broken down to examine which of the four PTSD symptom clusters impacted threat perception the most. It was hypothesized that the avoidance/numbing symptom cluster would have the biggest impact on threat perception. If this were the case, the expected results would likely show that participants with PTSD symptoms reported the vignette situations as less threatening than participants without PTSD symptoms. This trend was also expected to be especially evident in participants that endorsed numbing symptoms.

The correlations that were calculated showed that the PTSD symptom clusters were significantly correlated with the means of vignettes 1 and 5, as well as the IPV victimization variable. Moreover, all four symptom clusters did significantly impact threat perception to varying degrees, but hyperarousal was the most impactful symptom cluster on threat perception. That being said, a participant's IPV victimization severity had a much larger impact on threat perception than the PTSD symptom clusters. For example, the highest additional variance that

was explained by PTSD symptomology after controlling for IPV victimization was only 3.5%. for vignette 5.

Despite the small effect sizes for each PTSD symptom cluster, an interesting trend was observed. The data revealed an intersectional relationship between all four PTSD clusters and threat perception as vignette threat severity increased. For example, participants who met the criteria for hyperarousal evaluated the first vignette as significantly more threatening than participants who did not meet criteria for the hyperarousal cluster. On the other hand, participants who met the criteria for hyperarousal evaluated the fifth, most threatening vignette, as significantly less threatening as participants who did not meet criteria for hyperarousal. This same trend was observed for all four symptom clusters.

Research has already shown that IPV history often leads to reabuse, however the reason why this occurs was less clear. One popular school of thought is that PTSD symptomology hindered threat perception, leaving women more vulnerable to future reabuse (Krause et al., 2006; Iverson et al., 2011). However, the results of the current study showed that although all four PTSD symptom clusters contributed significantly to the variance observed in threat perception, other factors may be able to explain more of the variance, especially in situations like the first and last vignettes.

Implications

According to the results of the current study, individuals who have experienced IPV in the past and/or are currently experiencing PTSD symptoms may interpret severe relationship threat as less threatening. However, although these results revealed some significant factors in women's threat perception regarding the relationship abuse situations outlined in the vignettes,

this by no means is meant to be a victim-blaming study. The results that were found in this study were minor and in no way imply that the victim of an IPV event is in any way responsible for reabuse. The ultimate goal of this study was only to hopefully identify a potential chink in an IPV survivor's armor against future abuse, so that interventions may be better geared toward helping women avoid revictimization. That being said, the true culprit in these situations will never be PTSD symptoms or inhibited threat perception—it is always the perpetrator. To use this research as means to place any responsibility of the reabuse cycle on the victim would be irresponsible. Therefore, future research should focus more either on the perpetrators who reabuse, or on more evidence-based treatments for women who need revictimization intervention.

Limitations

A potential limitation of the current study was that participants who had experienced a single IPV relationship were not differentiated from participants who had experienced multiple IPV relationships, or specifically reabused participants. According to Bockers et al. (2014), some inconsistencies in the research regarding threat perception may be due to researchers not distinguishing between victimized and revictimized individuals. The current study is also guilty of not separating these groups and comparing them to each other. A future research direction may be to explore how IPV severity and PTSD symptomology relate to threat perception.

In addition to not distinguishing between victimized and revictimized participants, there was also no distinction in the current study between PTSD symptoms caused by IPV events and PTSD symptoms caused by non-IPV events (e.g., being in or witnessing a car accident, the death of a loved one, war, etc.). There's a possibility that threat perception may be affected differently

when faced with a similar threat versus a different threat. These distinctions should be made in future research in order to better understand these relationships.

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TABLES

Table 1

Distribution of Participants Indicating Victimization History

Victimization Type	Frequency	
	Yes	No
Trauma History Screen:		
Physical Assault by a Stranger	77(15.4%)	419(84.0%)
Physical Assault by a Partner	133(26.7%)	363(72.7)
Sexual Assault by a Stranger	75(15.0%)	421(84.4%)
Sexual Assault by a Partner	90(18.0%)	406(81.4%)
Physical Child Abuse	83(16.6%)	413(82.8%)
Sexual Child Abuse	78(15.6%)	418(83.8%)
Psychological Child Abuse	106(21.2%)	390(78.2%)
Severity of Violence Against Women Scale:		
Threatening Behavior	376(75.8%)	120(24.2%)
Physical Abuse	273(55.0%)	223(45.0%)
Sexual Aggression	170(34.3%)	326(65.7%)
Mild Violence	256(51.6%)	240(48.4%)
Minor Violence	181(36.5%)	315(63.5%)
Moderate Violence	158(31.9%)	338(68.1%)
Serious Violence	176(35.5%)	320(64.5%)

Table 2

Descriptive Statistics for Vignette Composite Variables

Vignette 1			
Item number	Mean	SD	α if item deleted
1	2.23	1.608	0.828
2	1.85	1.166	0.857
3	2.07	1.682	0.825
4	5.81	1.313	0.913
5	1.79	1.059	0.859
6	1.97	1.560	0.822
7	2.02	1.629	0.822
8	1.98	1.598	0.823
9	2.74	1.51	0.884
10	1.93	1.60	0.818
Threat Scale	1.83	1.60	-
Composite Score	**2.064**	**1.154**	**0.862**

Vignette 2			
Item number	Mean	SD	α if item deleted
1	5.39	1.18	0.811
2	4.95	1.71	0.822
3	3.60	1.74	0.824
4	5.58	1.17	0.831
5	4.73	1.57	0.820
6	5.11	1.40	0.793
7	3.70	1.75	0.817
8	4.74	1.58	0.795
9	5.02	1.77	0.825
10	4.21	1.76	0.805
Threat Scale	3.64	1.67	-
Composite Score	**4.700**	**0.993**	**0.830**

Vignette 3			
Item number	Mean	SD	α if item deleted
1	6.00	1.22	0.890
2	5.44	1.77	0.891
3	5.40	1.32	0.883
4	5.91	1.10	0.886
5	5.55	1.71	0.892
6	5.82	1.23	0.876
7	5.47	1.40	0.880
8	5.65	1.33	0.877
9	5.27	1.84	0.887
10	5.67	1.31	0.881
Threat Scale	5.13	1.26	-
Composite Score	**5.62**	**1.04**	**0.895**

Vignette 4			
Item number	Mean	SD	α if item deleted
1	5.68	1.17	0.889
2	5.58	1.65	0.896
3	5.23	1.32	0.887
4	5.75	1.13	0.891
5	5.19	1.68	0.888
6	5.73	1.26	0.882
7	5.42	1.37	0.886
8	5.56	1.30	0.884
9	5.54	1.76	0.896
10	5.59	1.34	0.884
Threat Scale	5.00	1.25	-
Composite Score	**5.53**	**1.02**	**0.898**

Vignette 5			
Item number	Mean	SD	α if item deleted
1	6.52	1.00	0.926
2	6.06	1.83	0.929
3	6.46	1.04	0.927
4	6.37	1.14	0.931
5	6.13	1.72	0.927
6	6.49	1.08	0.924
7	6.44	1.08	0.925
8	6.50	1.01	0.926
9	6.06	1.77	0.929
10	6.53	1.02	0.926
Threat Scale	6.33	0.99	-
Composite Score	**6.36**	**1.04**	**0.934**

Note. For all five vignettes, items 2, 5, and 9 were reverse coded.

Table 3

Correlations Among SVAWS, PTSD, and Composite Dependent Variables (Vignette Means; i.e., Threat Perception)

Variable	IPV Severity	Vignette 1 Mean	Vignette 2 Mean	Vignette 3 Mean	Vignette 4 Mean	Vignette 5 Mean
IPV Severity	-	0.534** 496	-0.008 496	-0.274** 496	-0.244** 496	-0.793** 496
PTSD Total	0.596** 496	0.389** 499	0.029 499	-0.118** 499	-0.155** 499	-0.355** 499
Intrusion Endorsement	0.486** 496	0.273** 499	0.055 499	-0.070 499	-0.083 499	-0.254** 499
Avoidance Endorsement	0.426** 496	0.211** 499	0.031 499	-0.012 499	-0.040 499	-0.184** 499
Negative Endorsement	0.590** 496	0.417** 499	0.003 499	-0.150** 499	-0.184 499	-0.378** 499
Hyperarousal Endorsement	0.612** 496	0.424** 499	0.031 499	-0.131** 499	-0.186** 499	-0.388** 499

Note. ** $p < .01$, * $p < .05$

Table 4

Summary of Hierarchical Regression Analysis for Variables Predicting Threat Perception

Vignette	Variable	β	*t*	sr^2	*R*	ΔR^2
1	Stage 1				0.534	0.285
	IPV Vict. Severity	0.043	14.038***	0.534		
	Stage 2				0.540	0.006
	IPV Vict. Severity	0.043	12.161***	0.481		
	Intrusion Total	-0.160	-1.105	-0.050		
	Avoidance Total	-0.153	-1.028	-0.046		
	Negative Total	0.170	1.125	0.051		
	Hyperarousal Total	0.046	0.329	0.015		
2	Stage 1				0.008	0.000
	IPV Vict. Severity	-0.001	-0.180	-0.008		
	Stage 2				0.107	0.011
	IPV Vict. Severity	-0.001	-0.233	-0.011		
	Intrusion Total	0.297	2.026*	0.091		
	Avoidance Total	-0.046	-0.307	-0.014		
	Negative Total	-0.204	-1.332	-0.060		
	Hyperarousal Total	0.079	0.554	0.025		
3	Stage 1				0.274	0.075
	IPV Vict. Severity	-0.020	-6.332***	-0.274		
	Stage 2				0.312	0.022
	IPV Vict. Severity	-0.022	-6.250***	-0.272		
	Intrusion Total	0.203	1.386	0.063		
	Avoidance Total	0.276	1.837	0.067		
	Negative Total	-0.270	-1.766	-0.080		
	Hyperarousal Total	0.087	0.613	0.028		
4	Stage 1				0.244	0.060

	IPV Vict. Severity	-0.017	-5.602***	-0.244		
	Stage 2				0.273	0.015
	IPV Vict. Severity	-0.018	-5.187***	-0.228		
	Intrusion Total	-0.020	-0.135	-0.006		
	Avoidance Total	0.368	2.465**	0.111		
	Negative Total	-0.107	-0.703	-0.032		
	Hyperarousal Total	-0.100	-0.711	-0.032		
5	Stage 1				0.493	0.243
	IPV Vict. Severity	-0.036	-12.596***	-0.0493		
	Stage 2				0.528	0.035
	IPV Vict. Severity	-0.028	-7.989***	-0.339		
	Intrusion Total	0.034	0.896	0.040		
	Avoidance Total	0.220	2.920**	0.131		
	Negative Total	-0.075	-2.188*	-0.098		
	Hyperarousal Total	-0.068	-1.700	-0.077		

Note. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

APPENDICES

APPENDIX A

	Have you ever experienced any of the following?		If yes, how old were you? If this event occurred multiple times, please separate ages by a comma (ex. 3, 7, and 16) or combine a period of ages with a hyphen (ex. 4-6 years old)
	Yes	No	
Physical assault by a stranger			
Physical assault by a partner			
Other physical assault (please specify if you're comfortable doing so)			
Sexual assault by a stranger			
Sexual assault by a partner			
Other sexual assault (please specify if you're comfortable doing so)			
Child abuse (physical)			
Child abuse (sexual)			
Child abuse (psychological)			
Other traumatic event (please specify if you're comfortable doing so)			

APPENDIX B

"The next questions are about things that are physical and threatening; acts that are not pleasant. Everyone gets frustrated or upset sometimes. Sometimes these acts occur during fights, but sometimes they just happen. Please answer honestly.

Has a partner ever:	Never 1	Once 2	A few times 3	Many times 4
Hit or kicked a wall, door, or furniture				
Threw, smashed, or broke an object				
Drove dangerously with you in the car				
Threw an object at you				
Shook a finger at you				
Made threatening gestures or faces at you				
Shook a fist at you				
Acted like a bully toward you				
Destroyed something belonging to you				
Threatened to harm or damage things you care about				
Threatened to destroy property				
Threaten someone you care about				
Threatened to hurt you				
Threatened to kill himself				
Threatened to kill you				
Threatened you with a weapon				
Threatened you with a club-like object				
Acted like he wanted to kill you				
Threatened you with a knife or gun				
Held you down pinning you in place				
Pushed or shoved you				
Grabbed you suddenly or forcefully				
Shook or roughly handled you				
Scratched you				
Pulled your hair				
Twisted your arm				
Spanked you				
Bit you				
Slapped you with the palm of his hand				
Slapped you with the back of his hand				
Hit you with an object				
Punched you				
Kicked you				

Stomped on you				
Choked you				
Burned you with something				
Used a club-like object on you				
Beat you up				
Used a knife or gun on you				
Demanded sex whether you wanted it or not				
Mad you have oral sex against your will				
Made you have sexual intercourse against your will				
Physically forced you to have sex				
Made you have anal sex against your will				
Used an object on you in a sexual way				

APPENDIX C

Have you ever experienced, witnessed, or been repeatedly confronted with any of the following (check all that apply):

- Serious, life threatening illness (heart attack, etc.)
- Physical assault (attacked with a weapon, severe injuries from a fight, held at gunpoint, etc.)
- Sexual assault (rape, attempted rate, forced sexual act with a weapon, etc.)
- Military combat or lived in a war zone
- Child abuse (physical, emotional, sexual, neglect, etc.)
- Abuse by a partner (physical, emotional, sexual, neglect, etc.)
- Accident (serious injury or death from a car, at work, a house fire, etc.)
- Natural disaster (severe hurricane, flood, tornado, fire, earthquake, etc.)
- Sudden death of a family member or friend
- Seeing someone die suddenly or get badly hurt or killed
- Some other sudden event that made you feel very scared, helpless, or horrified
- Sudden move or loss of home and possessions
- Suddenly abandoned by spouse, partner, parent, or family
- None
- Other trauma (please describe)

Please write below about the most distressing traumatic event that you've experienced:

Consider the traumatic event that you chose as your most distressing when answering the questions below. Please read each statement carefully and select the option that best describes how often that problem has been happening and how much it upset you.

	Not at all 0	Once a week or less/a little 1	2 to 3 times a week/ somewhat 2	4 to 5 times a week/ very much 3	6 or more times a week/ severe 4
Unwanted upsetting memories about the trauma					
Bad dreams or nightmares related to the trauma					
Reliving the traumatic event or feeling as if it were actually happening again					
Feeling very emotionally upset when reminded of the trauma					
Having physical reactions when reminded of the trauma					

Trying to avoid thoughts or feelings related to the trauma					
Trying to avoid activities, situations, or places that remind you of the trauma or that feel more dangerous since the trauma					
Not being about to remember important parts of the trauma					
Seeing yourself, others, or the world in a more negative way					
Blaming yourself or others (besides the person who hurt you) for what happened					
Having intense negative feelings like fear, horror, anger, guilt, or shame					
Losing interest or not participating in activities like you used to					
Feeling distant or cut off from others					
Having difficulty experiencing positive feelings					
Acting more irritable or aggressive with others					
Taking more risks or doing things that might cause others harm					
Being overly alert or on-guard					
Being jumpy or more easily startled					
Having trouble concentrating					
Having trouble falling or staying asleep					
How much have these difficulties been bothering you?					
How much have these difficulties been interfering with your everyday life?					

APPENDIX D

Vignette 1:

Tara is a 21-year-old woman who is driving her husband Rob to his job interview. On the freeway, Tara misses their exit and they end up caught in road construction. Due to this mistake, Rob misses his job interview and will have to reschedule. Rob tells Tara that he is frustrated that she missed the exit, so Tara apologizes. He tells her that it's alright and he'll just call the company to reschedule.

Vignette 2:

Rachel is a 40-year-old woman who is getting ready to meet her friends for lunch, but she can't find her debit card. On the night stand she sees that her husband John left $25 in cash sitting out. She decides to borrow the cash to pay for her lunch with the intention of paying her husband back later. John comes home from work and sees that his cash is missing. When Rachel comes home, John confronts her about the cash. She tells him that she borrowed it to pay for lunch and will pay him back. John raises his voice and expresses that he is very upset that she took his money. Rachel apologizes, but John says he doesn't care that she's sorry and gives her the silent treatment the rest of the night.

Vignette 3:

Shawna is a 25-year-old woman who is at her best friend, Sarah's, bachelorette party. At the party, she drank more than she was planning to and decided that she shouldn't drive home. Instead, she spent the night at Sarah's. Shawna forgot to text her husband Luke to let him know where she was going to be. When she got home the next morning, Luke began to yell at her. He accused her of cheating on him. When she tried to explain that she was at Sarah's house, Luke

didn't believe her. She went to call Sarah to have her confirm, but Luke grabs her phone from her hands and threw it on the floor, breaking the screen.

Vignette 4:

Jessica is a 32-year-old woman who is doing the laundry on her day off. While she is doing the laundry, her husband Jake's favorite t-shirt gets bleach stains on it. Jessica decides the t-shirt is ruined and throws it away. Jake comes home from work and can't find his favorite t-shirt so he asks Jessica where it is. She tells him that she got bleach stains on it so she threw the shirt away. Jake gets upset by the situation and raises his voice. Jessica turns to leave the room, but he grabs her by the shoulders and forcibly spins her around to face him. Eventually he lets go and walks away.

Vignette 5:

Steph is a 28-year-old woman and is married to Will. Steph borrows Will's truck to go to the store. While driving the truck, she accidentally backs into a light pole and dents the rear end. Will comes home from work and sees the new dent in his truck. Steph explains what happened and apologizes. Will gets very upset by the situation so he calls her 'worthless' and pushes her. Steph falls to the floor. When she tries to get back up, Will hits her in the face.

APPENDIX E

	Strongly Disagree 1	Disagree 2	Slightly Disagree 3	Neither Agree or Disagree 4	Slightly Agree 5	Agree 6	Strongly Agree 7
Tara and Rob seem to have some relation-ship problems							
Rob's response was appropriate for the situation							
Tara should be concerned for her safety							
Rob will probably behave in a similar way in the future							
Tara and Rob seem to have a healthy relationship							
Rob is treating Tara badly							
I would be concerned about Tara's safety in the future							
Rob is being cruel toward Tara							
Tara deserved the reaction she got from Rob							
Rob behaved in an abusive way toward Tara							

Note. The names in the vignette questions were changed to match each vignette.